

REMARKS

Applicant wishes to thank the Examiner for bringing to our attention the Interim Guidelines. It is believed that the newly drafted claims more than adequately comply with the guidelines and resolve the 35 U.S.C. §101 issue that was raised with the prior claims.

Our current claims clearly define a relationship between the hardware resources of a processor, a controller, a graphics plane and a reproduction apparatus to provide a high definition level of graphics display in an economical reproduction apparatus.

The invention defined by each of the new claims of the present application relates to improvements in execution of a particular control on a decoder model in which the decoder main body (i.e., processor) of graphics is independent from the controller main body (i.e., controller) for updating the graphics. The reason why the decoder main body is provided independently from the updating controller main body is to perform advanced updating such as displaying and deleting of graphics gradually, which is useful for a case when the graphics is a subtitle, for example. When the updating controller main body is an independent body from the decoder main body, the processor-controller connection will need to be closer. This is because, after the processor completes decoding of the graphics data, the controller has to perform an update without delay.

The manner in which the decoding completion of the processor is notified to the controller depends on the manner in which the processor and the controller are implemented in the reproduction apparatus. If the implementation necessitates a large time lag of notification, there may be a case where updating of graphics cannot be synchronized with the display rate of the moving picture.

To avoid an occurrence of such a case, the invention of each claim of the present application includes the following two features.

The first feature is that the data packet includes a decode time stamp and a first presentation time stamp, the decode time stamp indicating a start time of a process for decoding of the graphics data and the first presentation time stamp indicating an end time of the process.

The second feature is that the control packet includes a second presentation time stamp indicating a presentation time which is at or after the end time of the process.

The first feature (the decode time stamp and the first presentation time stamp being set in the above manner) makes it possible to complete the decoding process within a certain limited time period on a reproduction time axis, if the processor in the above decoder model (i) starts the decoding at a start time indicated by the decode time stamp and (ii) completes the decoding by the end time of the process indicated by the first presentation time stamp. The second feature (values of the first and second presentation time stamps maintaining the above relationship) enables the controller to perform updating at an adequate timing without receiving from the processor any decoding completion notification of graphics data, if the controller writes the graphics in the graphics plane by the time indicated by the second presentation time stamp (the presentation time which is at or after the end time).

If such an update is performed, it becomes possible to assure update synchronized with the display rate of the moving picture, regardless of the manner of implementation in the reproduction apparatus.

Since closer processor-controller connection is realized regardless of the manner of processor-controller implementation in the reproduction apparatus, it becomes possible to

maintain a degree of flexibility in the designing of such apparatus, as well as facilitating the manufacturing of such reproduction apparatuses at a low cost.

Claims 38 and 41-45 were held to be anticipated by *Murase et al.* (U.S. Patent No. 5,907,658) under 35 U.S.C. §102.

“[A]nticipation by inherent disclosure is appropriate only when the reference discloses prior art that must *necessarily* include the unstated limitation. . . .”

Transclean Corp. v. Bridgewood Services, Inc., 290 F.3d 1364, 62 USPQ2d 1865 (Fed. Cir. 2002)

Claim 39 was rejected over a combination of *Murase et al.* taken in view of *Hayashi* (U.S. Patent No. 6,868,096), and further in view of *Kataoka et al.* (U.S. Patent No. 6,282,209) under 35 U.S.C. §103.

The Office Action acknowledged that the *Murase et al.* reference did not teach a presentation time stamp for adjusting a decoding time indicated by a decode time stamp, with a processor ending the decoding at a time indicated by another presentation time stamp included in a data packet.

The Office Action further acknowledged that the *Hayashi* reference did not teach a processor ending a decoding operation at a time indicated by a second presentation time stamp included in a data pack, but relied upon the *Kataoka et al.* reference and specifically cited the Abstract.

Murase et al. (U.S. Patent No. 5,907,658) actually discloses an interactive control technique for DVD-Video. *Murase et al.* discloses, in the cited Column 22, lines 55 to 67, a digital stream including moving picture materials, sub-picture packs and management information packs. Figure 18 schematically shows images to be displayed on the screen, as well

as display times of the images, with the aid of the moving picture materials, sub-picture packs and management information packs included in VOB #3. As shown in Figure 18, it was asserted that the moving picture materials and the sub-picture packs of *Murase et al.* were equivalent to the video stream and the graphics stream of the present application, respectively. However, the logic of the above passages of *Murase et al.* in the Office Action to the present claims must be supported by actual teachings in *Murase et al.*

Thus, the decoding time stamp of each sub-picture pack must specify a start time of the decoding. In order to find whether *Murase et al.* states that each sub-picture includes a claimed decoding time stamp specifying a start time of a decoding process, we have searched through the Specification of *Murase et al.* and find it discloses a decoding time stamp and a presentation time stamp in Column 12, lines 45 to 53, as follows:

Fig. 7A

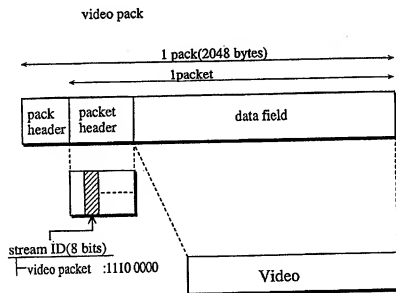


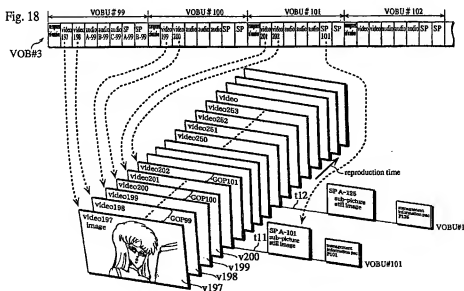
FIG. 7A shows the construction of the video pack. A video pack includes a pack header, a packet header, and a data field as stipulated under MPEG

and is 2 KB in size. The pack header includes a pack start code and an SCR (System Clock Reference) as stipulated under MPEG. The packet header includes a stream ID, a packet length, an STD (System Target Decoder) buffer scale size, a PTS (Presentation Time Stamp), and a DTS (Decoding Time Stamp) as stipulated under MPEG. (underline added)

However, the decoding time stamp and the presentation time stamp disclosed in these passages of *Murase et al.* are included in a video pack. The sub-picture packs, which are equivalent to the graphics data, do not include a pair of the decode time stamp and the first presentation time stamp and are the same as the audio pack. See Column 14, Lines 8-10.

F*IG. 7C shows the construction of the sub-picture pack. The construction is basically the same as that of the audio pack shown in FIG. 7B.

As set forth above, the passages of *Murase et al.* that are recited by the Office Action as disclosing the presentation time stamp of a data packet in the graphics stream merely disclose a decoding time stamp and a presentation time stamp of a video packet. Therefore, these passages of *Murase et al.* disclose neither the first claimed feature nor the second claimed feature of our current claims. See Figure 18 as follows:



Murase et al. discloses, from Column 33, Line 55 to Column 34, Line 6, a timing for displaying each image with the aid of the moving picture materials, sub-picture packs and management information packs. Images v197 and x198 are images of video packs 197 and 198 included in VOB#99, which is the 99th VOB from the first VOB (VOB #1). Similarly, images v199 and v200 are images of video packs 109 and 200 included in VOB #100, which is the 100th VOB from the first VOB. These images are displayed in synchronization due to the presentation time stamps.

Murase et al. further discloses, in Column 12, Lines 57 to 67, adjustment in synchronization of reproduction of data pieces. If these passages recite the start of the decode process by the processor of the present application, in accordance with our claims, the *Murase et al.* decoding of the above sub-picture packs must have been already started to address the problem of a large decoding workload. In order to verify whether these passages of *Murase et al.* teach that the decoding of the above sub-picture packs has started, we note *Murase et al.* states that the SCR and PTS of each video pack are used to adjust the synchronism with the decoding of audio packs and the decoding of sub-picture packs.

More specifically, the video decoder in the disk reproduction apparatus sets a standard clock based on the SCR, decodes the moving picture data in the data field, and waits for the standard clock to show the time described in the PTS. When the time is shown, the decoding results are output to the display side. With this waiting period being based on the description of the PTS, a synchronism error between the moving picture data and sub-picture data/audio data when being output is resolved. However, as can be understood from the above statements, these passages of *Murase et al.* disclose that the standard clock is set by using the system clock reference of each video pack, and synchronization between audio and sub-pictures is established

based on the presentation time stamps. These passages neither teach a start of the decoding of the graphics data, nor indicate that the end time of the decoding process is specified by a first presentation time stamp of each data packet. Accordingly these passages disclose neither the first feature nor the second feature which can be expected from the technology of 1995.

As is obvious from the above comparisons, the recording medium of *Murase et al.* involves neither (i) a decode time stamp of a data packet storing graphics data, which indicates the start time of the decoding of the graphics data, the start time being indicated by, nor (ii) a first presentation time stamp of a data packet storing the graphics data, which indicates the end time of the decoding of the graphics data. Furthermore, the reproduction apparatus of *Murase et al.* does not start display of graphics based on a second presentation time stamp of a control packet storing control data. Additionally, the reproduction apparatus of *Murase et al.* does not include a separate pair of a processor and a controller, therefore, *Murase et al.* cannot disclose that the graphics are reproduced by the processor and the controller utilizing a synchronization decoding process with use of time stamps that can be determined during the editing phase of movie content production in an economical manner.

Hayashi (U.S. Patent No. 6,868,096) sought to provide a simple interface between an encoding unit (1) for multiplexing separate audio streams and video streams into a system stream that is to be delivered via a communication network (3) to a decoder unit (2), see Figure 1. Purportedly, the prior art use of FIFO memories created a complex interface. See Column 1, Lines 45-51.

Hayashi discloses, in Column 4, Lines 18 to 39, a method of calculating a decoding time stamp and a presentation time stamp in units of encoding. If a temporal relationship between the presentation time stamp and the decode time stamp of our present claims is stated in these

passages, then *Hayashi* must disclose that the value of the presentation time stamp in units of encoding is calculated by adding a predetermined value to the value of another presentation time stamp.

The cited passages of *Hayashi* disclose the following calculation methods, a decoding/reproducing tuning of video is calculated by adding a predetermined constant to the PTS/DTS of the last video packet, and the decoding/reproducing timing of audio that does not have a PTS is calculated by adding a constant to the PTS/DTS of the last audio packet.

As is obvious from the above, *Hayashi* merely discloses a calculation method for calculating the PTS of the current packet by adding a constant to the PTS of the preceding packet, *Hayashi* cannot teach a second presentation time stamp of a control packet is calculated from a first presentation time stamp of a data packet. Therefore, the above passages of *Hayashi* disclose neither the first feature nor the second feature of our current claims.

“A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994); see *KSR*, 127 S. Ct. at 1739-40 (explaining that when the prior art teaches away from a combination, that combination is more likely to be nonobvious). Additionally, a reference may teach away from a use when that use would render the result inoperable. *McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1354 (Fed. Cir. 2001).

In re Icon Health and Fitness, Inc. 2007 U.S. App. Lexis 18244, *10

Kataoka et al. (U.S. Patent No. 6,282,209) discloses a technique for clipping, from a continuous multiplexed stream, a second portion from a first portion of a digital stream in a broadcasting system. The first portion is a portion of a transport stream downloaded to a specified medium during a period including a start time T_s and an end time T_e . The second portion is clipped from the first portion such that the second portion starts with a data unit that

has been received after the start time T_s and has a first header including a first minimum index and ends just before a data unit that has been received after the end time T_e and has a second header including a second minimum index. These T_s and T_e are each written as a PTS in the same data unit.

Thus, *Kataoka et al.* merely discloses a technique to clip a portion of a stream based on a PTS of a data unit, and does not state that the reproduction timing of graphics is specified by a control packet storing control data. Therefore, the above passages of *Kataoka et al.* disclose neither the first feature nor the second feature of our claims.

As is obvious from the above comparisons, neither *Hayashi* nor *Kataoka et al.* discloses (i) the first presentation time stamp of a data packet storing graphics data and (ii) the second presentation time stamp of a control packet storing control data, which are disclosed in the present application. For this reason, the invention of each claim of the present application cannot be rejected as being obvious in view of any combination of *Murase et al.*, *Hayashi* and *Kataoka et al.*

It is the Examiner's burden to establish *prima facie* obviousness. See *In re Rijckaert*, 9 F.3d 1531, 1532 (Fed. Cir. 1993) Obviousness requires a suggestion of all the elements in a claim (*CFMT, Inc. v. Yieldup Int'l Corp.*, 349 F.3d 1333, 1342 (Fed. Cir. 2003)) and "a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007). Here, we find that the Examiner has not identified all the elements of claim 1, nor provided a reason that would have prompted the skilled worker to have arranged them in the manner necessary to reach the claimed invention.

Ex parte Karoleen B. Alexander, No. 2007-2698, slip op. at 6 (B.P.A.I. Nov. 30, 2007)

Claims 40 and 46 have been cancelled without prejudice and the purpose of citing *Chung et al.* (KR 2002-007659) and *Takemura* (Japanese Laid-Open Application No. 06-275054) are

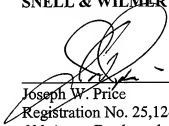
now moot. Both of these references do not address the first and second features of our claims, nor do they rectify the deficiencies of the *Murase et al.*, *Hayashi* and *Kataoka et al.* references, alone or in combination.

It is believed the present application is now in condition for allowance.

If the Examiner believes a telephone interview will help further the prosecution of the case, the undersigned attorney can be contacted at the listed phone number.

Very truly yours,

SNELL & WILMER L.L.P.



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